

PASCAULT, Jean Pierre, et al.

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REMARKS

The current amendments reduce the issues to be considered in a potential appeal and should therefore be entered.

The amendment of Claim 1 to delete reference to "Cardura E10 (meth)acrylate" is believed to render moot the Examiner's rejection of Claims 1-28 under 35 U.S.C. §112, 2nd paragraph. As no other rejections are applied against Claims 20-28, the Applicant presumes that these claims are allowable.

The Examiner maintained and made final the rejection of Claims 1-19 under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over GB 2178048A ("Ricoh"). The Examiner disagrees with the Applicant's previous remarks that allylic (meth)acrylate is expressly excluded in Claim 1. Specifically, the Examiner states that the term "allylic" signifies "the group $\text{CH}_2=\text{CHCH}_2-$ ".

The Applicants do not agree that the definition of allylic (meth)acrylate does not include the monomers cited in Examples 2 to 4 of GB 2 178 048. The definition given by the Examiner of the allylic group is effectively $\text{CH}_2=\text{CH}-\text{CH}_2-$ and any allylic derivative may be defined by $\text{R}-\text{CH}_2-\text{CH}=\text{CH}_2$. Independently of the structure of R, the definition of allylic propounded by the Applicant is valid a derivative of the allylic group - $\text{CH}_2-\text{CH}=\text{CH}_2$ is present. In the case of B-4, B-6 or B-9, the fact that m is respectively 4, 8 or 15 does not at all change the presence of the allylic group in the cited derivatives which in the developed form are as follows:

- B4
- $\text{CH}_2=\text{C}(\text{CH}_3)-\text{CO}_2\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}=\text{CH}_2$
- B6
- $\text{CH}_2=\text{CH}-\text{CO}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}=\text{CH}_2$
- B9
- $\text{CH}_2=\text{C}(\text{CH}_2)-\text{CO}_2-(\text{C}_{14}\text{H}_{28})-\text{CH}_2-\text{CH}=\text{CH}_2$

The allylic group is underlined in each case.

The general definition of allylic (meth)acrylates is not limited to the (meth)acrylate of allylic alcohol but to any (meth)acrylate additionally containing an allylic end group - $\text{CH}_2-\text{CH}=\text{CH}_2$.

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The general definition of allylic should be considered as any derivative containing the allylic unsaturation as defined. In the present case, the (meth)acrylic esters of formula B according to Ricoh are (meth)acrylic esters of allylic derivatives (alcohols) $\text{HO-R}'\text{-CH}_2\text{-CH=CH}_2$ with R' as following for B4, B6 and B9:

B4 R' -alkylene in C_3 (propylene)

B6 R' =alkylene in C_5 (pentene)

B9 R' =alkylene in C_{14} (deca butylenes)

As such, $\text{HO-R}'\text{-CH}_2\text{-CH=CH}_2$ is undoubtedly an allylic derivative and the (meth)acrylic ester of this derivative is known by a man skilled in the art as an allylic (meth)acrylate.

As it concerns the distinction of the crosslinked, during polymerization, microparticles of the present invention with respect to the crosslinkable microparticles of Ricoh, we do not agree with the conclusion of the Examiner given that it is specifically defined in Claim 1 that the crosslinked microparticles are obtained by the polymerization of a mixture of monomers A + B + C, wherein B, as defined, is an internal crosslinker during polymerization, while the component B according to Ricoh during polymerization behaves as a usual comonomer and not as a crosslinker, leading (only) under end-use conditions to an interparticular crosslinking and not at all to an individual microparticle intra crosslinking as in the case of the present invention.

The Applicants do not agree that the "crosslinked" limitation in Claim 1 is to be interpreted as including crosslinking according to Ricoh, given that the definition of crosslinked associated with the conditions of obtention of these microparticles as defined in Claim 1 (by polymerization of a mixture of monomers comprising A + B + C) does implicitly define an internally crosslinked microparticle which as a result is stable in storage as such and can be further used as such in the various cited applications. In the case of Ricoh, the microparticles are crosslinkable between them by inter particles allylic crosslinking leading to a crosslinked global material where the individual microparticles as linked between them by this crosslinking cannot be separated individually and cannot be any more used as stable separate microparticles with specific properties (are not at all dispersible in solvents to form stable dispersion in a solvent but form a unique macro-gelled material).

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It is clear from Claim 1 that the difference of process of preparation of the microparticles of the present invention with respect to Ricoh (internal or intra individual crosslinking of the microparticles during polymerization against inter crosslinking between microparticles during their end-use) leads to completely different molecular structure of the microparticles of the invention and of the resulting end-use performances. The difference of performances of the claimed microparticles of the present invention is clear with respect to those disclosed by Ricoh. The (internally) crosslinked microparticles of the present invention remain after internal crosslinking unaffected regarding their performances of particle size, dispersibility in a solvent stability in storage of the dispersion, rheology of the dispersion, still usable as such for end use applications, while the crosslinked microparticles as disclosed by Ricoh before their end-use are not crosslinked and they are unstable in storage (presence of unstable in air allylic unsaturation) and after their use (inter particle crosslinking via allylic pending unsaturation), a macro-gelled material is obtained, where the microparticles cannot be individually separated and have no more the individual particle size, this irreversibly macro-gelled material being no more dispersible in a solvent and not usable for end-use application as the microparticles of the present invention.

The above amendments and remarks are believed to overcome the Examiner's rejections. Therefore, the Applicants respectfully request reconsideration and allowance of pending Claims 1-28.

No fee or petition is believed due. In the event that a fee or petition is due, authorization is given here to charge Deposit Account No. 23-2053 in the appropriate amount for such fee or petition.

The Examiner is invited to call the Applicant's attorney in the event that such communication would facilitate allowance of the application.

Respectfully submitted,



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